

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट  
**INITIAL COMMERCIAL TEST REPORT**

संख्या/No. CSIR/CMERI/FMTTC/2022/015  
माह/Month: January 2023

**THIS TEST REPORT VALID UP TO : 31<sup>ST</sup> January, 2028**



**AGRINEER- AN 205D  
POWER WEEDER**



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र  
**Farm Machinery Training and Testing Centre**  
सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान  
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## 4. SPECIFICATIONS

## 4.1 General

Type of machine	: Self-Propelled, Walk Behind Type
Make	: AGRINEER
Model	: AN 205D
Serial No.	: LCL220131
Name and address of manufacturer	: Chongqing Weiwang Machinery Manufacturing Co., Ltd., China.
Year of manufacture	: 2022
Country of origin	: China

## 4.2 Details of prime mover

Name and address of manufacturer	: Chongqing Weiwang Machinery Manufacturing Co., Ltd, China.
Type	: Air Cooled; 4-Stroke; Single Cylinder, Diesel Engine, Vertical, Compression Ignition.
Make	: Weiwang
Model	: AN 173FA
Sr. No.	: BB0711899
Country of origin	: China
Year of manufacture	: 2022
Engine speed (Manufacturer's recommended setting), (rpm)	: 3000
High idle speed	: 3750 $\pm$ 50
Low idle speed	: 1400 $\pm$ 50
Rated speed, (rpm)	: 3000
No load engine speed for field operation, (rpm)*	: 3000
Speed at maximum torque, rpm*	: 3271
Max Torque (Nm)*	: 22.60
Rated Power (kW)*	: 4.5 (6.1 hp)
Max Power (kW)*	: 4.95 (6.6 hp)



\*As per specification sheet provided by applicant

**12. FIELD TEST**

The field test under dry land condition was conducted for 29.42 h. The field performance tests were conducted at the rated 3000 rpm. Multiple test trials were conducted in sandy loam soil at the FMTTC, CSIR-CMERI farm, Durgapur. The results of the field test for dry land operation are summarized in Table-4.

**Crop parameters**

i)	Type of weed	:	Seasonal grass
ii)	Height of weed, cm	:	4 to 12

**Table 4: Summary of field performance test**

Sl. No.	Parameter		Range
I	Type of soil	:	Sandy loam
ii	Average Soil moisture (%)	:	12.1 to 18.0
iii	Average Bulk density of soil (g/cc)	:	1.50 to 1.71
iv	Average Speed of operation (kmph)	:	1.4 to 2.5
v	Average depth of cut (cm)	:	6.4 to 9.4
vi	Average Width of cut (m)	:	1.11 to 1.13
vii	Average Area covered (ha/h)	:	0.12 to 0.23
viii	Average Time required for one ha (Hr.)	:	4.4 to 8.4
ix	Average Fuel consumption		
		L/hr. :	0.6 to 0.9
		L/ha :	3.7 to 5.3
x	Average Weeding efficiency (%)	:	90.0 to 95.9
xi	Average Field efficiency (%)	:	64.2 to 82.7

The detailed field performance testing data is given in Annexure I.

**13. ADJUSTMENT, DEFECTS, BREAKDOWNS & REPAIRS**

No noticeable breakdown occurred during test.

**14. COMPONENTS/ ASSEMBLY INSPECTION AND ASSESSMENT OF WEAR****14.1 Engine**

The Engine and other assemblies were dismantled after 31.35 hours of operation

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23.	Depth control mechanism	Must be provided	Provided	Conforms
24.	Provision for transport Wheels	Must be provided	Provided	Conforms
25.	Provision for cover on Exhaust	Must be provided	Provided	Conforms
26.	Direction of exhaust emission away from Operator	Must be provided	Provided	Conforms
27.	Marking/labeling machine	The labeling plate should be riveted on the body of machine having Name and address of manufacturer & Applicant, Country of origin, Make, Model, Year of manufacturer, Serial number, Engine number, Engine HP, rated rpm & SFC.	Provided but all the information are not there	<b>Does not Confirm in toto.</b>
28.	Literature	Operator manual, service manual and Parts catalogue should be provided.	Not Provided	<b>Does not Confirm</b>

## 16. COMMENTS & RECOMMENDATION

- 16.1 The amplitude of mechanical vibration marked as (\*) under section 9, are on higher side. It is not just directly concerned with operator's health, safety and comfort, but also adversely affects the useful life of the components. It needs to be corrected.
- 16.2 The hardness of blades does not confirm to the requirements of IS: 6690-1981 as mentioned in section 10. Corrective action needs to be taken for this.
- 16.3 Chemical composition of blades does not confirm to the requirements of IS: 6690-1981 as mentioned in section 10. Corrective action needs to be taken for this.
- 16.4 Material of blade does not confirm the requirement. This needs to be looked into for corrective action.
- 16.5 Material of Rotor shaft does not confirm the requirement as per standard. It needs to be looked into for corrective action.
- 16.6 The thickness of the rotor shaft does not confirm the requirement of standard. It needs to be looked into.
- 16.7 Marking/labeling Marking/labeling machine plate partially does not confirm the critical specification requirement. This need to be consider for corrective actions.
- 16.8 The Operator manual, service manual and parts catalogue are not provided with the machine. It is to be provided.



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CSIR-Central Mechanical Engineering Research Institute, Durgapur  
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*[Signature]*

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### 17. TECHNICAL LITERATURE


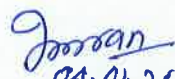
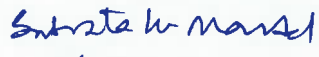

The following literatures are not provided by the applicant during the test along with the application form.

- a) User's manual book
- b) Parts' catalogue
- c) Service manual

These manuals need to be provided as per IS: 8132-1999.



### 18. TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	 04.01.2023
Report Verified by	Scientist, CSIR-CMERI Farm Machinery Testing Centre	 04.01.2023
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	 04.01.2023
Report Approved for release by	Head, Business Innovation and Skill Group, CSIR-CMERI, Durgapur	 05/01/23



### 19. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
19	16.1 - 16.8	We will take corrective action against the same

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